

Application No. 10/691,040
Amendment dated August 4, 2004
Reply to Office Action of May 4, 2004

REMARKS/ARGUMENTS

Responsive to the Official Action mailed May 4, 2004, applicants have amended the claims of their application in an earnest effort to place this case in condition for allowance. Specifically, independent claims 1 and 8 have been amended, and dependent claims 2-7 canceled. Reconsideration is respectfully requested.

Applicants note the Examiner's comments regarding application priority.

In the Action, the Examiner objected to the Specification, and rejected claims 2 and 7 under 35 U.S.C. §112, making reference to the disclosure in applicants' Specification of use of a "cast scrim." It will be recognized by those familiar with the art, that this type of scrim structure is formed by deposition or casting of molten plastic material onto a forming surface having a grid-line array of recesses within which the scrim structure is formed. As will be appreciated by those familiar with the art, this is distinct from formation of scrims from strand-like elements which are interconnected to form a net-like structure. Nevertheless, in an effort to advance prosecution, claims 2 and 7 have been canceled. Accordingly, it is believed that this rejection may be withdrawn.

In rejecting the pending claims under 35 U.S.C. §102 and §103, the Examiner has relied principally upon U.S. Patent No. 3,485,706, to Evans, as well as U.S. Patent No. 5,369,858, to Gilmore et al., and U.S. Patent No. 6,022,447, to Radwanski et al. However, it is respectfully submitted that these references, even when modified or combined, do not teach or suggest applicants' claimed method for

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making a carpet including a secondary carpet backing in accordance with their disclosed invention, and accordingly, the Examiner's rejections are respectfully traversed.

It is noted that the Examiner also set forth a rejection under 35 U.S.C. §102(e) with reliance upon commonly-assigned U.S. Patent No. 6,629,340, to Dale et al. For the Examiner's convenient reference, applicants submit herewith a copy of their application Assignment, and return postcard receipt, which were submitted to the Office for recordation on March 22, 2004. The recorded Assignment document has not yet been received back from the Office.

As discussed in the Specification, the present invention is directed to a highly cost-effective method for manufacturing a carpet including a secondary carpet backing which can be efficiently formed from a fibrous matrix comprising staple length fibers, and an associated support member provided in the form of a continuous filament spunbond fabric, with the secondary carpet backing formed on a three-dimensional image transfer device (i.e., ITD) which, in significant distinction from common metallic screens, can impart performance enhancing imaging to the composite fabric structure. It is respectfully submitted that the prior art does not teach or suggest formation of a carpet including a secondary backing fabric in accordance with the present invention.

While it is recognized by those familiar with the art, the Evans reference discloses basic hydroentanglement techniques, it is respectfully maintained that this reference does not teach or suggest the specific manipulative steps of applicants'

claimed process. Significantly, there is no teaching or suggestion in Evans of employing a support layer in the form of a *continuous filament spunbond fabric*. This is particularly clear from a study of the portion of the Evans disclosure referenced by the Examiner. At column 12, line 5 *et seq.*, Evans states:

The initial layer may consist of any web, mat, or batt, of *loose fibrous elements*, disposed in random relationship with one another or in any degree of alignment, such as might be produced by *carding and the like*. The fibrous elements may be of any natural, cellulosic, and/or wholly synthetic material. The initial layer may be made by any desired technique, such as by *carding*, random lay down, air or *slurry* deposition, etc. . . . If desired, the initial layer may be an assembly of *loose fiber webs*, such as, for example, cross-lapped *carded webs*. The initial layer may include scrim, *wove cloth*, bonded nonwoven fabrics, or other reinforcing material, which is incorporated into the final product by the treatment. Particularly desirable products may be obtained by utilizing *highly crimped fibers* or fibers which have a latent ability to *elongate, crimp, shrink or the like* and then, after the formation of the patterned textile, developing the latent properties of the fibers.

As will be clearly evident from this recited passage, there is clearly no teaching or suggestion of employing a *continuous filament spunbond fabric*, as specifically set forth in applicants' claims. Reference in Evans to "carding" and "crimped" fibers clearly shows this reference teaches and contemplates use of individual fibers, and not continuous spunbond filaments, in accordance with the present invention.

This is a significant shortcoming in the teachings of the prior art, since applicants' claimed method takes advantage of the efficiency with which spunbond

fabrics can be formed by melt-extrusion of polymeric material, with the efficiency of formation permitting in-line processing of such continuous filament spunbond fabrics. Thus, there is a fundamental shortcoming in the teachings of Evans in suggesting the present invention, with the present invention desirably permitting cost-effective manufacture.

Moreover, Evans clearly fails to teach or suggest the use of three-dimensional image transfer devices. These types of imaging devices permit heretofore unachieved highly efficient formation of nonwoven fabrics having patterns and images which cannot be formed in accordance with Evans, which contemplates the use of *perforated metal plates or metal screens*, and not three-dimensional image transfer devices, in accordance with the present invention.

At columns 7 and 8, Evans discusses the type of patterning members which can be employed, "such as the perforated plate or the fine wire screen shown in enlarged views in FIGURES 5 and 12" (column 7 lines 53-54); "a suitable heavy wire screen" (column 8, line 9); "heavy-wire screens of other weaves" (column 8, line 14); "a patterning member which is a negative replica of the woven fabric" (column 8, lines 21-22); "patterning members may be prepared by bonding together grains of sand" (column 8, lines 73-74); "a screen with resin" (column 9, line 1). As will be evident, Evans does not teach nor contemplate three-dimensional image transfer devices, in accordance with the present invention, which can be formed by laser-ablation without reliance upon woven mesh screens, so that resultant fabric

patterning imparts desired structural characteristics and physical properties to a nonwoven fabric.

Applicants note the Examiner's reference to a honeycomb support, discussed at column 22, but there is *no teaching* of using such a honeycomb support as a imaging or patterning surface:

A patterning member which does not have sufficient rigidity, such as a woven wire screen, must be supported. Perforated plates or very heavy screens can be used to support a fine wire screen, but have been found to produce a secondary pattern which shows through on the processed fabric. A honeycomb support 115, made of thin sheet metal with about 1/8-inch cells oriented radially and at least 1 inch in thickness is preferred.

Thus, it is evident that Evans does not teach the use of such a honeycomb support as a patterning surface, and in fact, *teaches away* from use of the support for this purpose. As noted, this discussion in Evans cautions against the creation of a "secondary pattern," and is understood to suggest that use of a honeycomb support 115 *avoids imparting a pattern*.

Finally, it is respectfully maintained that there is no teaching in Evans of forming a carpet including an imaged nonwoven fabric in the form of a secondary carpet backing fabric, as claimed.

It is respectfully maintained that the Gilmore et al. patent is similarly clearly deficient in teaching of suggesting applicants' novel method. First, Gilmore et al. is specifically limited in its teachings to the use of meltblown fibers, and thus has no teaching or suggestion of forming a fibrous matrix comprising staple length fibers as

claimed. Moreover, like Evans, Gilmore et al. is specifically limited in its teachings to the use of wire or perforated plate-forming surfaces:

The foraminous continuous belt 16 transfers the fiber layers onto an aperturing member such as wire 18. The aperturing member could also comprise a perforated drum, a perforated plate, a three-dimensional perforated plate or drum with a peripheral three-dimensional perforated surface (column 9, lines 14-19).

Again, applicants' claimed method contemplates formation of the secondary carpet backing fabric on a three-dimensional image transfer device, which permits the fabric to be formed with specific structural features to provide desired physical characteristics which promote use in formation of a carpeting construct.

It will also be noted that Gilmore et al. specifically contemplates "a nonwoven fabric for use as a fluid transmitting top sheet for disposable diapers and sanitary napkins" (column 1, lines 10-12), and thus has no teaching or suggestion of forming a carpet including a secondary carpet backing fabric, in accordance with the present invention.

In the Action, the Examiner has referred to discussion in Gilmore suggesting that the disclosed layers can be reversed, with the Examiner stating "in this case, the meltblown web (which comprises continuous filaments) forms the claimed support layer." Applicants must respectfully disagree with this interpretation of Gilmore et al., since it is well-known by those skilled in the art that meltblown fibers *are not continuous*, but are rather very fine fibrous elements which can find utility in filtration and barrier applications, but which are ordinarily considered to *lack structural integrity*. This is in clear distinction from applicants' claimed support layer in the

form of a continuous filament spunbond fabric, which fabrics are not only known for their economical manufacture, but also for their strength characteristics in comparison to typical meltblown fibrous structures.

Like Gilmore et al., the recited Radwanski et al. patent is specifically limited in its teachings to the use of a layer of meltblown fibers, in clear distinction from applicants' claimed method. Formation of an elastomeric material is contemplated:

The present invention achieves each of the above objects by providing a composite nonwoven elastomeric material formed by hydraulically entangling a laminate comprising (1) a layer of meltblown fibers, and (2) at least one further layer, with at least one of the meltblown fiber layer in the further layer being elastic (column 3, lines 57-63).

Because the teachings in Radwanski et al. regarding a patterning surface are limited to the teachings of the above-discussed Evans reference, it is respectfully submitted that this patent is similarly deficient in teaching or suggesting applicants' claimed use of three-dimensional image transfer devices.

There is no teaching or suggestion in Radwanski et al. of employing the disclosed elastomeric fabric construct for use as a secondary carpet backing, in accordance with the present invention. It is respectfully submitted that such a use would not be apparent, since ordinarily a secondary carpet backing fabric is intended to provide *stability* to an associated carpet component, and applicants' must respectfully question whether an elastomeric fabric, in accordance with Radwanski et al., would offer such a stabilizing effect.

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In view of the foregoing, formal allowance of claims 1 and 8 is believed to be in order and is respectfully solicited. Should the Examiner wish to speak with applicants' attorneys, they may be reached at the number indicated below.

The Commissioner is hereby authorized to charge any additional fees which may be required in connection with this submission to Deposit Account No. 23-0785.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited with the United States Postal Service with sufficient postage at First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on **August 4, 2004**.

